



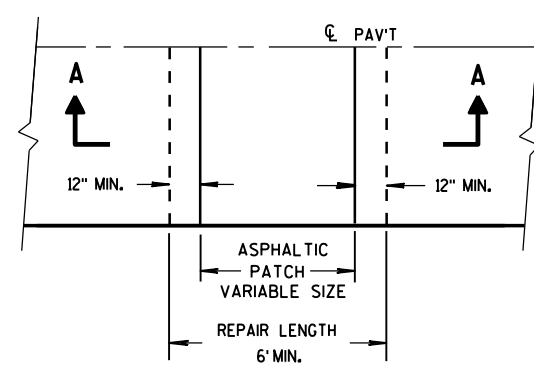
## GENERAL NOTES

SAW CUT, DRILL, AND LIFT OUT EXISTING CONCRETE PAVEMENT WITHIN THE BOUNDARIES OF CONCRETE REPAIR AREAS. THE CONTRACTOR MAY MAKE ADDITIONAL SAW CUTS INSIDE THE REPAIR LIMITS TO REDUCE WEIGHT AND SIZE OF CONCRETE PIECES.

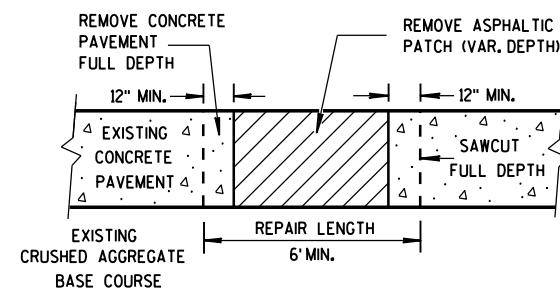
PROVIDE A 6-FOOT MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR AREAS TO ADJACENT TRANSVERSE JOINT OR CRACK IN THE SAME LANE.

THE LENGTH OF THE REPAIRS MAY VARY FROM THE DIMENSIONS SHOWN IF THE EXISTING CONCRETE PAVEMENT IS NONDOWELED AND THE PAVEMENT IS TO BE OVERLAID AFTER REPAIRING.

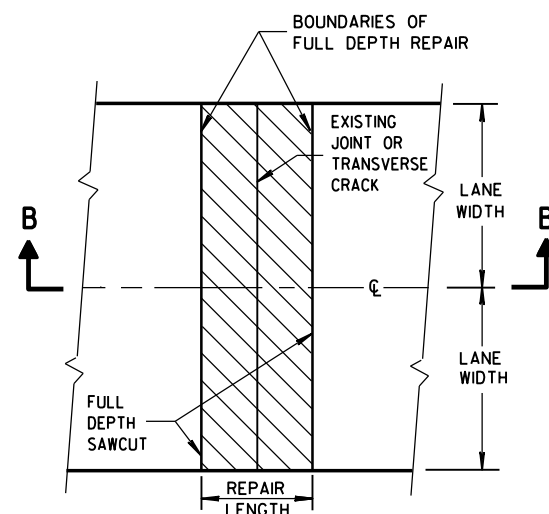
① DOWEL BARS MIGHT NOT EXIST.



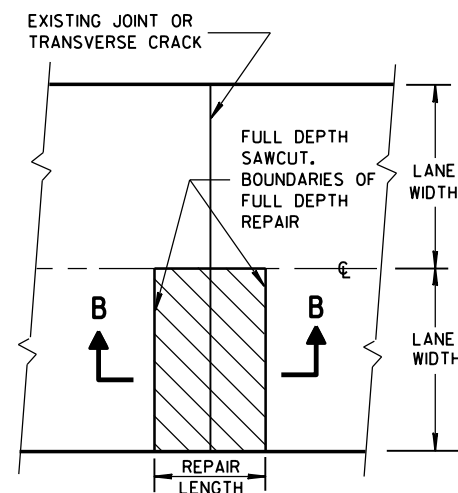
PLAN VIEW



SECTION A-A  
HMA PATCH REMOVAL

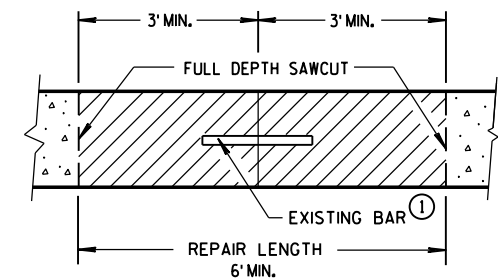


PLAN VIEW  
(DOUBLE LANE REPAIR)



PLAN VIEW  
(SINGLE LANE REPAIR)

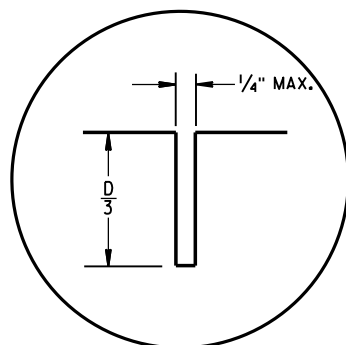
## FULL DEPTH CONCRETE PAVEMENT REMOVAL



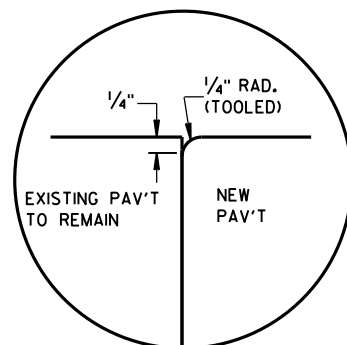
SECTION B-B  
CONCRETE REMOVAL

CONCRETE PAVEMENT REPAIR  
AND REPLACEMENT

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

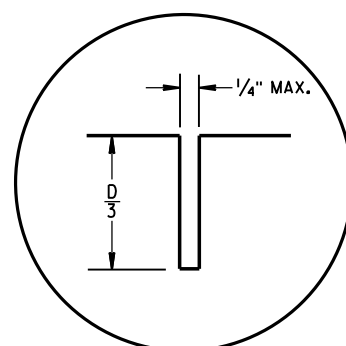


C1

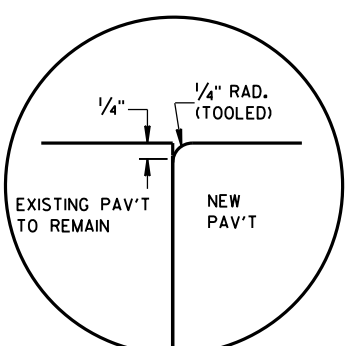


C2

## TRANSVERSE JOINTS

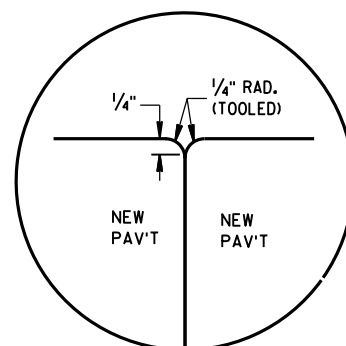


L1



L2

## LONGITUDINAL JOINTS



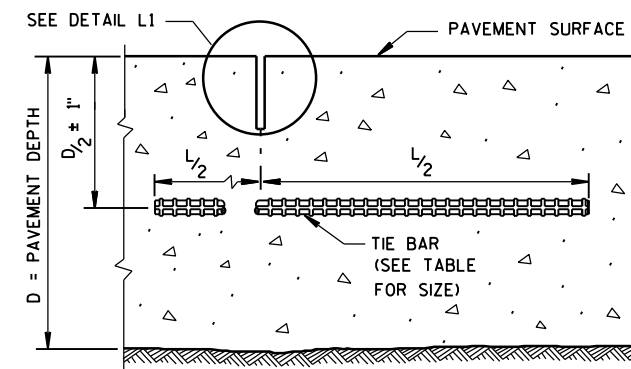
L3

## TIE BAR TABLE

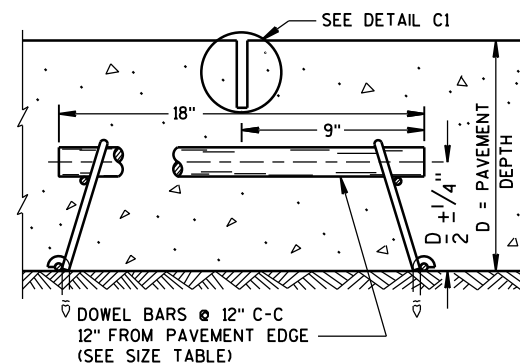
PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 1/2"	NO. 4	30"	36"
≥ 10 1/2"	NO. 5	36"	36"
	NO. 4 *	30"	24" **

\* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

\*\* CONFORM TO 15" MINIMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.



SECTION C-C  
SAWED LONGITUDINAL JOINT



SECTION F-F  
CONTRACTION JOINT

## GENERAL NOTES

INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

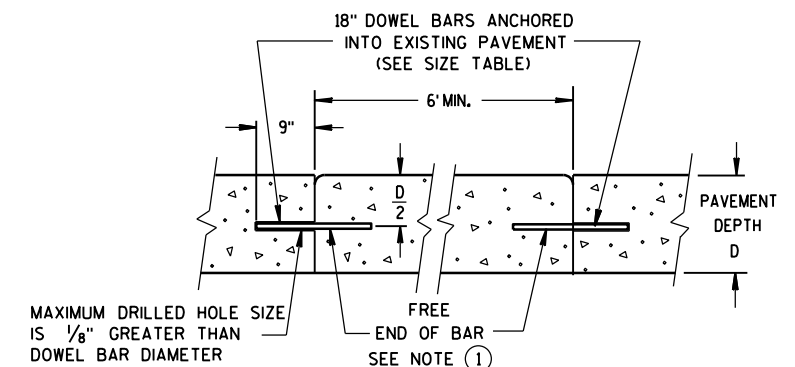
CONCRETE PAVEMENT REPAIRS OF EXISTING NONDOWELED CONCRETE PAVEMENTS DO NOT NEED TO BE DOWELED.

DO NOT SEAL OR FILL JOINTS.

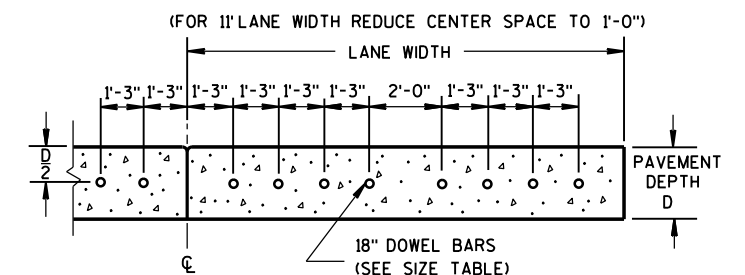
ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

FOR MULTI-LANE CONCRETE PAVEMENT REPLACEMENTS, PROVIDE A MINIMUM DISTANCE OF 15 INCHES FROM ALL TRANSVERSE JOINTS OR EDGES OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

① APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.



SECTION D-D



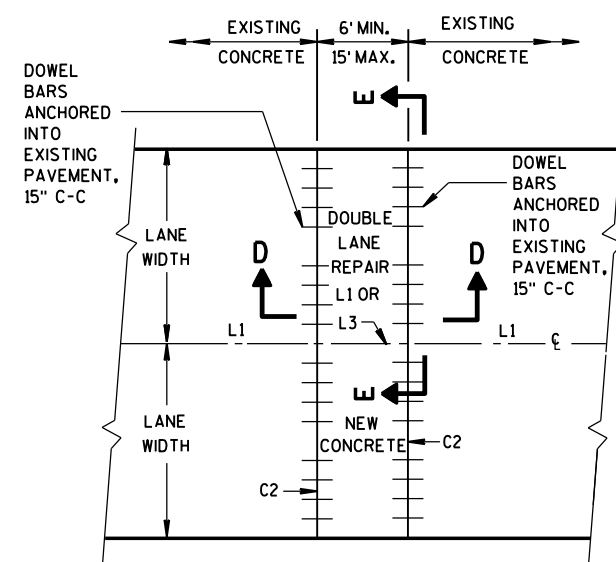
SECTION E-E  
DRILLED DOWEL BAR CONSTRUCTION JOINT

## PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 1/2", 6", 6 1/2"	NONE	12'
7", 7 1/2"	1"	14'
8", 8 1/2"	1 1/4"	15'
9", 9 1/2"	1 1/4"	15'
10" & ABOVE	1 1/2"	15'

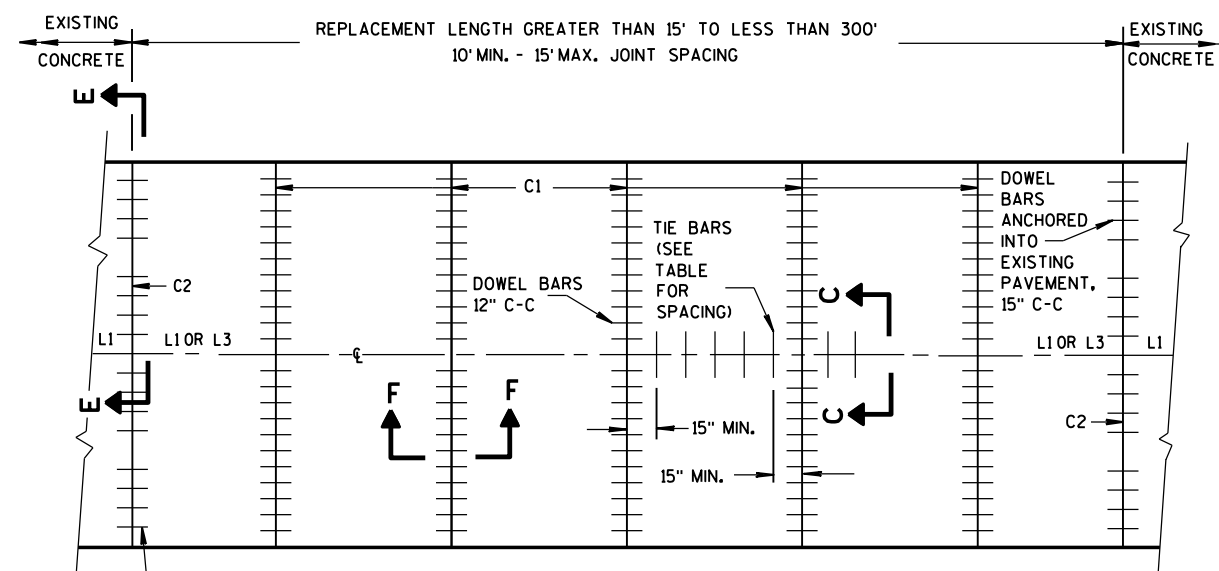
## CONCRETE PAVEMENT REPAIR AND REPLACEMENT

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



PLAN VIEW

## MULTI-LANE CONCRETE PAVEMENT REPAIR



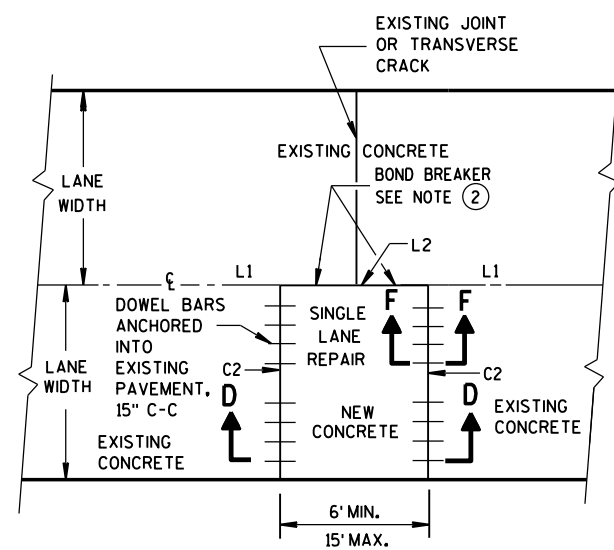
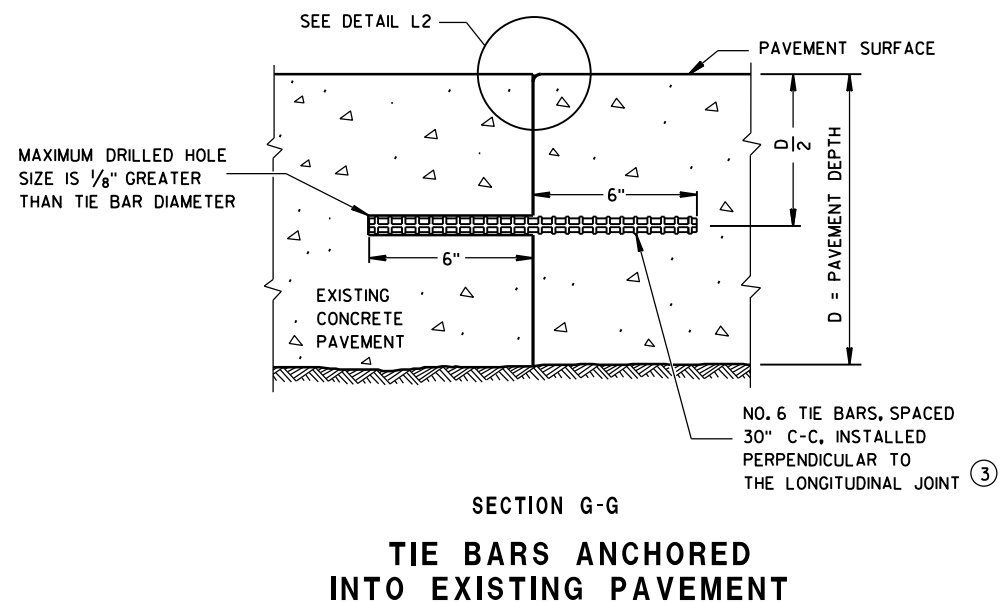
PLAN VIEW

## MULTI-LANE CONCRETE PAVEMENT REPLACEMENT

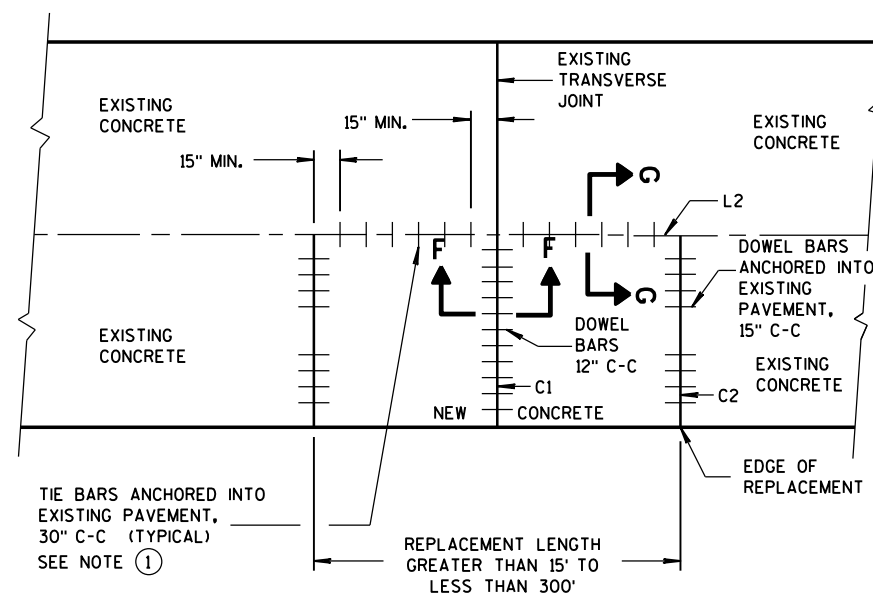


## GENERAL NOTES

- WITH THE APPROVAL OF THE ENGINEER, FOR SINGLE LANE PAVEMENT REPLACEMENTS LESS THAN 30 FEET IN LENGTH, THE CONTRACTOR MAY INSTALL DRILLED TIE BARS ON 6:1 SKEW HORIZONTALLY, DIRECTION OF SKEW ALTERNATING WITH EACH SUCCESSIVE BAR. DRIVE SKEWED TIE BARS TO A DEPTH OF 6 INCHES IN A HOLE OF SUCH A DIAMETER AS TO PROVIDE A TIGHT DRIVEN FIT.
- USE AN ENGINEER-APPROVED BOND BREAKER (E.G. RELEASE AGENT, CURING COMPOUND) FOR SINGLE LANE REPAIRS UP TO 15 FEET IN LENGTH.
- ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.



PLAN VIEW  
SINGLE LANE  
CONCRETE PAVEMENT REPAIR



PLAN VIEW  
SINGLE LANE  
CONCRETE PAVEMENT REPLACEMENT

CONCRETE PAVEMENT  
REPAIR AND REPLACEMENT

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
Sept., 2015 /S/ Peter Kemp, P.E.  
DATE PAVEMENT SUPERVISOR  
FHWA

*Concrete Pavement Repair and Replacement***References:**[FDM 14-25-10](#)**Bid items associated with this drawing:**

<u>ITEM NUMBER</u>	<u>DESCRIPTION</u>	<u>UNIT</u>
204.0100	Removing Pavement.....	SY
415.0060 - 0199	Concrete Pavement (inch) .....	SY
415.1080 - 1199	Concrete Pavement HES (inch) .....	SY
416.0610	Drilled Tie Bars.....	EACH
416.0620	Drilled Dowel Bars .....	EACH
416.1710	Concrete Pavement Repair.....	SY
416.1715	Concrete Pavement Repair SHES.....	SY
416.1720	Concrete Pavement Replacement.....	SY
416.1725	Concrete Pavement Replacement SHES .....	SY
690.0250	Sawing Concrete.....	LF

**Standardized Special Provisions associated with this drawing:**

<u>STSP NUMBER</u>	<u>TITLE</u>
NONE	

**Other SDDs associated with this drawing:**

<a href="#">SDD 13c11</a>	Rural Doweled Concrete Pavement
<a href="#">SDD 13c13</a>	Urban Doweled Concrete Pavement

**Design Notes:**

Always include SDDs 13c9 sheets "a", "b" and "c" together in plan sets.

If Concrete Pavement Repair or Concrete Pavement Repair SHES are part of a project, designers should also consider including Concrete Pavement Replacement or Concrete Pavement Replacement SHES and Concrete Pavement (inch) or Concrete Pavement HES (inch) bid items since unforeseen pavement repairs may extend beyond 15 feet in length.

**Contact Person:**

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